

CLAIMS

What is claimed is:

1. A method of filtering phonetic units to be used within a concatenative text-to-speech voice comprising the steps of:

receiving at least one phonetic unit that has been automatically extracted from a speech corpus in order to construct a concatenative text-to-speech voice;

calculating an abnormality index for said phonetic unit, wherein said abnormality index indicates a likelihood of said phonetic unit being misaligned;

comparing said abnormality index to a normality threshold;

if said abnormality index does not exceed said normality threshold, marking said phonetic unit as a verified phonetic unit; and,

building said concatenative text-to-speech voice using said verified phonetic units.

2. The method of claim 1, further comprising the step of:

if said abnormality index exceeds said normality threshold, marking said phonetic unit as a suspect phonetic unit.

3. The method of claim 2, further comprising the step of presenting said suspect phonetic unit within an alignment validation interface, wherein said alignment validation interface comprises a validation means for validating said suspect phonetic unit and a denial means for invalidating said suspect phonetic unit.

4. The method of claim 3, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of:

providing at least one navigation control within said alignment validation interface; and,

upon a selection of one of said navigation controls, navigating from said suspect phonetic unit to a different suspect phonetic unit.

5. The method of claim 3, further comprising the steps of:
 - providing an audio playback control within said alignment validation interface; and,
 - upon a selection of said audio playback control, audibly presenting said suspect phonetic unit.
6. The method of claim 3, further comprising the step of:
 - if said validation means is selected within said alignment validation interface, marking said suspect phonetic unit as a verified phonetic unit.
7. The method of claim 3, further comprising the steps of:
 - if said denial means is selected within said alignment validation interface, marking said suspect phonetic unit as a rejected phonetic unit; and,
 - excluding said rejected phonetic units from said building of said concatenative text-to-speech voice.
8. The method of claim 1, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of:
 - presenting a graphical distribution of the abnormality indexes of said plurality of phonetic units within a normality threshold interface; and,
 - adjusting said normality threshold with said normality threshold interface.
9. The method of claim 1, said calculating step further comprising the steps of:
 - examining said phonetic unit for a plurality of abnormality attributes;
 - assigning an abnormality value for each of said abnormality attribute; and,
 - calculating said abnormality index based at least in part upon said plurality of abnormality values.
10. The method of claim 9, said calculating step further comprising the steps of:
 - for each abnormality attribute, identifying an abnormality weight and multiplying said abnormality weight and said abnormality value; and,

adding results from said multiplying to determine said abnormality index.

11. The method of claim 9, said assigning step further comprising the steps of:
 - examining said phonetic unit for at least one abnormality attribute characteristic;
 - for each abnormality attribute characteristic, determining at least one abnormality parameter;
 - utilizing said abnormality parameters within an abnormality attribute evaluation function; and,
 - calculating said abnormality index using said abnormality attribute evaluation function.

12. A system of filtering phonetic units to be used within a concatenative text-to-speech voice comprising the steps of:
 - means for receiving at least one phonetic unit that has been automatically extracted from a speech corpus in order to construct a concatenative text-to-speech voice;
 - means for calculating an abnormality index for said phonetic unit, wherein said abnormality index indicates a likelihood of said phonetic unit being misaligned;
 - means for comparing said abnormality index to a normality threshold;
 - if said abnormality index does not exceed said normality threshold, means for marking said phonetic unit as a verified phonetic unit; and,
 - means for building said concatenative text-to-speech voice using said verified phonetic units.

13. A machine-readable storage having stored thereon, a computer program having a plurality of code sections, said code sections executable by a machine for causing the machine to perform the steps of:

- receiving at least one phonetic unit that has been automatically extracted from a speech corpus in order to construct a concatenative text-to-speech voice;
 - calculating an abnormality index for said phonetic unit, wherein said abnormality index indicates a likelihood of said phonetic unit being misaligned;

comparing said abnormality index to a normality threshold;
if said abnormality index does not exceed said normality threshold, marking said phonetic unit as a verified phonetic unit; and,
building said concatenative text-to-speech voice using said verified phonetic units.

14. The machine-readable storage of claim 13, further comprising the step of:
if said abnormality index exceeds said normality threshold, marking said phonetic unit as a suspect phonetic unit.
15. The machine-readable storage of claim 14, further comprising the step of presenting said suspect phonetic unit within an alignment validation interface, wherein said alignment validation interface comprises a validation means for validating said suspect phonetic unit and a denial means for invalidating said suspect phonetic unit.
16. The machine-readable storage of claim 15, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of:
providing at least one navigation control within said alignment validation interface; and,
upon a selection of one of said navigation controls, navigating from said suspect phonetic unit to a different suspect phonetic unit.
17. The machine-readable storage of claim 15, further comprising the steps of:
providing an audio playback control within said alignment validation interface; and,
upon a selection of said audio playback control, audibly presenting said suspect phonetic unit.
18. The machine-readable storage of claim 15, further comprising the step of:
if said validation means is selected within said alignment validation interface, marking said suspect phonetic unit as a verified phonetic unit.

19. The machine-readable storage of claim 15, further comprising the steps of:
 - if said denial means is selected within said alignment validation interface, marking said suspect phonetic unit as a rejected phonetic unit; and,
 - excluding said rejected phonetic units from said building of said concatenative text-to-speech voice.
20. The machine-readable storage of claim 13, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of:
 - presenting a graphical distribution of the abnormality indexes of said plurality of phonetic units within a normality threshold interface; and,
 - adjusting said normality threshold with said normality threshold interface.
21. The machine-readable storage of claim 13, said calculating step further comprising the steps of:
 - examining said phonetic unit for a plurality of abnormality attributes;
 - assigning an abnormality value for each of said abnormality attribute; and,
 - calculating said abnormality index based at least in part upon said plurality of abnormality values.
22. The machine-readable storage of claim 21, said calculating step further comprising the steps of:
 - for each abnormality attribute, identifying an abnormality weight and multiplying said abnormality weight and said abnormality value; and,
 - adding results from said multiplying to determine said abnormality index.
23. The machine-readable storage of claim 21, said assigning step further comprising the steps of:
 - examining said phonetic unit for at least one abnormality attribute characteristic;
 - for each abnormality attribute characteristic, determining at least one abnormality parameter;

utilizing said abnormality parameters within an abnormality attribute evaluation function; and,

calculating said abnormality index using said abnormality attribute evaluation function.